

and a luminescent material present in an amount of about 0.001 to 0.05 percent by weight of the ink.

108. (new) The method of claim 107, wherein the luminescent material is a fluorescent material.

REMARKS

The Applicants thank the examiner for the courtesy extended during an interview on January 17, 2003.

New claims 95-107 are pending.

Support for the new claims may be found in the specification, *inter alia*, as follows:

Claim 95: page 5, line 34 - page 6, line 15

Claim 96: page 4, line 29 - page 5, line 2

Claims 97 and 98: page 6, lines 16-19

Claim 99: page 4, lines 20-22

Claim 100: page 5, lines 1-2

Claim 101: page 4, lines 29-32

Claim 102: page 7, lines 4-13

Claim 103: page 4, lines 20-22

Claims 104 and 105: page 5, lines 4-12; page 6, lines 4-7

Claim 106: page 5, lines 3-12

Claim 107: page 12, lines 25-31

Claim 108: page 4, lines 20-22

The canceled claims were previously rejected under 35 U.S.C. 102 and 35 U.S.C. 103 as unpatentable over U.S. patent no. 5,609,943 to DeKoven. Although those claims are no longer pending, Applicants will discuss why the presently pending claims are patentable over DeKoven.

The specific part of DeKoven relied upon was column 1, lines 41-48, which discuss Japanese Public Patent Disclosure Bulletin No. 59-75205. See 8/20/02 Office Action at page 3. Applicants have obtained an English language abstract of this reference, which has been submitted in a concurrently filed IDS.

The abstract of reference 59-75205 describes a "color filter." A color filter operates by blocking some wavelengths of light, while allowing others to pass. Filtering materials generally do not luminesce (emit light), but rather merely allow light to pass. Luminescent materials, on the other hand, actually emit light. This is a significant distinction.

Luminescence is sensitive to composition and morphology of the luminescent layer in ways that either do not apply to color filters, or are of much less concern to color filters. For example, aggregation or uneven distribution of luminescent materials can cause significant problems due to self-quenching, non-uniform luminescence, etc. Aggregation of a luminescent material should therefore be avoided, yet there should be enough material to give good color intensity. See, specification at page 4, lines 29-35; page 6, lines 26-32. Aggregation is not necessarily an issue with respect to color filtering materials, because absorption is much less sensitive to morphology, and self-quenching is not an issue. As a result, the disclosure of color

filtering materials by ink-jet printing, which could have a wide variety of morphologies that would result in a functioning device, would not enable or suggest to one of skill in the art that luminescent materials could be deposited by ink-jet printing in such a way that aggregation and the associated undesirable effects of aggregation could be avoided.

Thickness is also a relevant issue. Color filter layers are generally quite thick compared to luminescent layers. A disclosure of an ink-jet process to make a thick color filter layer would not necessarily teach or suggest to one of skill in the art that luminescent layers, which are generally much thinner (on the order of hundreds of angstroms), could also be fabricated by an ink-jet process.

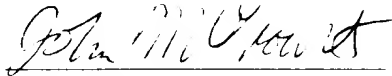
The term "luminescent" appears in several of the claims. This term was previously rejected as not enabled. See 7/3/01 Office Action at 2 and 10/15/01 Office Action at 1. The claims at issue were then canceled, mooted the rejection. See 2/7/02 response. Because the term "luminescent" has been reintroduced, the applicants will address this rejection.

The Applicants believe the term "luminescent" is enabled for the reasons discussed in the 10/5/01 Response. In addition, the specification uses the term "luminescent" (or variations thereof) extensively. See specification at: page 2, line 13; page 3, line 14; page 4, line 35; page 5, line 5; page 6, line 7; page 7, line 15. The term "light-emitting" is also used at page 11, line 19. Moreover, a liquid ink comprising a "fluorescent dye" and a host matrix is described as *preferred*, not as the only possible embodiment. See specification at page 4, line 21. The Applicants respectfully submit that fluorescent materials are a preferred class of luminescent materials, but not the only class of materials encompassed by the invention.

Finally, concerns about aggregation and quenching apply generally to luminescent materials, whether they are fluorescent or phosphorescent materials, and whether they are excited by light, electrical current, or otherwise. Solving the aggregation and quenching problems with ink-jet processing with respect a specific embodiment of photo-excited fluorescent materials would enable one of skill in the art to apply the solution more generally.

Respectfully submitted,
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